

CLAIMS:

1. A method of encoding speech in a communications system, said method comprising the steps of:

receiving a speech signal including voice signals and background signals;

detecting voice activity and providing an indicator when no voice activity is detected;

encoding the speech signal to generate a plurality of parameters representing the signal; and

when the indicator is not present, outputting a first parametric representation of the speech signal comprising the plurality of parameters, and, when the indicator is present, modifying at least one of the plurality of parameters and outputting a second parametric representation of the speech signal including the modified parameter.

2. A method according to claim 1, wherein the plurality of parameters includes a linear prediction calculation vector of quantized linear prediction filter coefficients.

3. A method according to claim 1, wherein the plurality of parameters includes a gain parameter based on open-loop lag value.

4. A method according to claim 1, wherein the plurality of parameters includes a residual vector.

5. A method according to claim 1, wherein the speech signal is received as a sequence of samples arranged in frames.

6. A method according to claim 5, wherein the step of modifying the at least one parameter includes smoothing the parameter for a current frame based on characteristics of the parameter in other frames of the speech signal.

7. A method according to claim 6, wherein said other frames include adjacent frames.
8. A method according to claim 6, wherein the step of modifying the at least one parameter includes producing a count of the number of received frames up to a predetermined maximum, and using said count in the modifying step.
9. A method according to claim 1, wherein the step of modifying at the least one parameter includes generating a randomized value for the parameter.
10. A method according to claim 1, wherein the step of modifying the at least one parameter includes taking into account the energy levels associated with the parameter.
11. A method according to claim 1, wherein the step of modifying the at least one parameter includes modifying a value utilized in the generation of the parameter, whereby modification of that value produces a modified parameter.
12. A method according to claim 11, wherein the step of modifying the value comprises randomizing the value.
13. A communications system configured to encode speech, the system comprising:
 - an input configured to receive a speech signal including voice signals and background signals;
 - a voice activity detector configured to detect voice activity and to provide an indicator when no voice activity is detected;
 - an encoder configured to encode the speech signal to generate a plurality of parameters representing the signal;
 - modifying circuitry for modifying, when the indicator is present, at least one parameter of the plurality of parameters; and

an output at which a first parametric representation of the speech signal is output when the indicator is not present, the first parametric representation comprising the plurality of parameters, and at which a second parametric representation of the speech signal is output when the indicator is present, the second parametric representation including the modified parameter.

14. A communications system according to claim 13, wherein the speech signal is received as a sequence of samples arranged in frames, and wherein the modifying circuitry smooths the parameter for a current frame based on characteristics of the parameter in other frames of the speech signal.

15. A communications system according to claim 13, wherein the speech signal is received as a sequence of samples arranged in frames, and wherein the modifying circuitry produces a count of the number of received frames to a predetermined maximum, and to use the count in the step of modifying the parameter.

16. A communications system according to claim 13, wherein the modifying circuitry generates a randomized value for the parameter.

17. A communications system according to claim 13 wherein the modifying circuitry takes into account energy levels associated with the parameter.

18. A system for encoding speech, said system comprising:

receiving means for receiving a speech signal including voice signals and background signals;

detecting means for detecting voice activity and providing an indicator when no voice activity is detected;

encoding means for encoding the speech signal to generate a plurality of parameters representing the signal; and

outputting means for, when said indicator is not present, outputting a first parametric representation of the speech signal comprising said plurality of

parameters, and, when the indicator is present, modifying at least one of the parameters and outputting a second parametric representation of the speech signal including the modified parameter.

19. A communications system configured to encode speech, the system comprising:

input means for receiving a speech signal including voice signals and background signals;

voice activity detection means for detecting voice activity and to provide an indicator when no voice activity is detected;

encoder means for encoding the speech signal to generate a plurality of parameters representing the signal;

modifying means for modifying, operable when the indicator is present to modify at least one of the parameters; and

output means for outputting, when the indicator is not present, a first parametric representation comprising said plurality of parameters, and at which a second parametric representation of the speech signal is output when the indicator is present, the second parametric representation including the modified parameter.